Abstract

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Title of thesis:

HPLC-MS determination of active biological compounds in Elbe river

Biologically active compounds have a various ways to enter environment. They can occur as pesticides, cosmetics and pharmaceutics and their metabolites. Such compounds are classified as environmental contaminants. There is a increased environmental concentration connected with increasing consumption of biologically active compounds. There is a urgent need to follow the effect on the different parts of ecosystem and levels of biologically active compounds.

This work was prepared during the cooperation with Povodí Labe state enterprise.
A novel analytical method was described in the experimental part of this thesis. I was employed to evaluate biologically compounds levels in the surface water samples. This method is now routinely used. 10 out of 19 evaluated compounds reached concentrations higher than LOD. Acetaminophene (559 ng/l, Králický stream), gabapentine (457 ng/l Elbe, LB Schmilka), cotinine (139 ng/l, Králický potok) were the biologically active compounds with the highest found concentrations.

Keywords: HPLC-MS analysis, Elbe river, liquid chromatography